

Recovery Plan Action Status

Plan Name: Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon

Plan Status: Final

Plan Date: 15-Dec-05

Lead Agency: USFWS

Lead Office: Sacramento Fish And Wildlife Office

(916)
414-8600)

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Vernal pool tadpole shrimp (Lepidurus packardii), Longhorn fairy shrimp (Branchinecta longiantenna), Conservancy fairy shrimp (Branchinecta conservatio), Vernal pool fairy shrimp (Branchinecta lynchi)	1	4.1.3.3.1	Implement research on dispersal mechanisms of listed fairy shrimp and vernal pool tadpole shrimp.	Not Started			Contractor	Research: Migration	Graduate Student	
Longhorn fairy shrimp (Branchinecta longiantenna), Fleshy owl's-clover (Castilleja campestris ssp. succulenta), Conservancy fairy shrimp (Branchinecta conservatio), Vernal pool fairy shrimp (Branchinecta lynchi)	1	1.3.13	Conduct standardized vernal pool habitat site assessments for Southeastern Sacramento Valley vernal pool region	Partially Complete	FY 2011		To be decided	Research: Habitat Status	Contract	Cost estimate for 37,621 hectares (92,960 acres). Project to map and quantify occupied habitat of 3 shrimp and one plant species in core areas in Sacramento and Placer Counties has been funded by CVPHRP.
Longhorn fairy shrimp (Branchinecta longiantenna), Fleshy owl's-clover (Castilleja campestris ssp. succulenta), Conservancy fairy shrimp (Branchinecta conservatio), Vernal pool fairy shrimp (Branchinecta lynchi)	1	1.3.14	Conduct standardized vernal pool habitat site assessments for Southern Sierra Foothills vernal pool region	Partially Complete	FY 2011		To be decided	Research: Habitat Status	Contract	Cost estimate for 190,970 hectares (471,886 acres). Project to map and quantify occupied habitat of 3 shrimp and one plant species in core areas in Merced County has been funded by CVPHRP.

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Vernal pool tadpole shrimp (<i>Lepidurus packardii</i>), Vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)	3	2.4.3.2	Implement introduction of cysts to restored or created habitat	Ongoing Current			To be decided	Management: Reintroduction	Internal Field Assistance	Estimates earthwork, soil collection and application, staff time at ~\$25,000 [need to verify] per acre. Several conservation banks have created vernal pools and cysts collected from existing vernal pools were collected and used to inoculate the created pools. Monitoring is in progress. Van Vleck is an example. 10a1A permit required to conduct cyst translocation.
Vernal pool tadpole shrimp (<i>Lepidurus packardii</i>), Vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)	3	2.4.3.3	Apply success criteria in a monitoring program to determine success of shrimp cyst introduction effort.	Ongoing Current			Conservation Organizations, U.S. Fish and Wildlife Service	Management: Habitat Maintenance and Manipulation	Internal Field Assistance	Post-creation/restoration monitoring is now in progress at several created pools in Sacramento Valley. Van Vleck property is an example.

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Delta green ground beetle (<i>Elaphrus viridis</i>), Vernal pool tadpole shrimp (<i>Lepidurus packardii</i>), Hoover's spurge (<i>Chamaesyce hooveri</i>), Colusa grass (<i>Neostapfia colusana</i>), Hairy Orcutt grass (<i>Orcuttia pilosa</i>), Longhorn fairy shrimp (<i>Branchinecta longiantenna</i>), Fleshy owl's-clover (<i>Castilleja campestris</i> ssp. <i>succulenta</i>), Slender Orcutt grass (<i>Orcuttia tenuis</i>), Sacramento Orcutt grass (<i>Orcuttia viscida</i>), Conservancy fairy shrimp (<i>Branchinecta conservatio</i>), Contra Costa goldfields (<i>Lasthenia conjugens</i>), Loch Lomond coyote thistle (<i>Eryngium constancei</i>), Butte County meadowfoam (<i>Limnanthes floccosa</i> ssp. <i>californica</i>), Lake County stonecrop (<i>Parvisedum leiocarpum</i>), Solano grass (<i>Tuctoria mucronata</i>), Few-flowered navarretia (<i>Navarretia leucocephala</i> ssp. <i>pauciflora</i> (=N. <i>pauciflora</i>)), San Joaquin Orcutt grass (<i>Orcuttia inaequalis</i>), Vernal pool fairy shrimp (<i>Branchinecta lynchi</i>), Many-flowered navarretia	1	3.2.2	Conduct standardized status surveys within each vernal pool region, starting with core areas.	Partially Complete	FY 2008	FY 2012	To be decided	Other	Contract, Species Expert	See 1.3.1-1.3.16 above. Species expert has been funded through CVPHRP to conduct plant surveys in Sacramento and San Joaquin Valleys. Final report will be submitted to FWS in 2012.

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(Navarretia leucocephala ssp. plieantha), Greene's tuctoria (Tuctoria greenei)										

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Slender Orcutt grass (Orcuttia tenuis), Butte County meadowfoam (Limnanthes floccosa ssp. californica), Vernal pool fairy shrimp (Branchinecta lynchi)	1	5.2.1	Form individual working groups for each vernal pool region.	Ongoing Current			Vernal Pool Recovery Team	Other	Internal Technical Assistance	Assumes compensation to team members to establish working groups. A working group is being established for the Butte/Tehama Counties. A work plan is being drafted for this group. The second group to be established will be in the Merced/Madera Counties area.
Slender Orcutt grass (Orcuttia tenuis), Butte County meadowfoam (Limnanthes floccosa ssp. californica), Vernal pool fairy shrimp (Branchinecta lynchi)	3	5.2.2	Develop a participation plan and submit to recovery implementation team for review.	Ongoing Current			U.S. Fish and Wildlife Service, Vernal Pool Recovery Team	Other	Internal Technical Assistance	A plan is being drafted simultaneously with assembling the Butte/Tehama work group. Plan will be finalized after group is established. Assumes shared staff costs to develop participation plan.
Slender Orcutt grass (Orcuttia tenuis), Butte County meadowfoam (Limnanthes floccosa ssp. californica), Vernal pool fairy shrimp (Branchinecta lynchi)	3	5.2.3.1	Identify private landowners interested in pursuing recovery and conservation efforts on their lands and prioritize a list of potential participants.	Ongoing Current			U.S. Fish and Wildlife Service, Vernal Pool Recovery Team	Other, Other: Administration	Internal Technical Assistance	De facto Butte/Tehama working group has discussed how to develop this list and has made tentative suggestions.
Butte County meadowfoam (Limnanthes floccosa ssp. californica), Vernal pool fairy shrimp (Branchinecta lynchi)	3	5.2.3.4	Work with cities, counties, and owners of large amounts of natural lands to develop Habitat Conservation Plans	Ongoing Current	FY 2005		U.S. Fish and Wildlife Service, Contractor	Other: Regulations	Internal Technical Assistance	Butte County and City of Chico are developing an HCP/NRCP for their areas.

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